AMENDED CLAIM SET:

1. (currently amended) A method for improved radiation treatment by selectively reducing mammal neuron death from ionizing radiation in cyclophilin-rich neurons of central, peripheral, and autonomic nervous systems of a mammal while not reducing damage or death to cyclophilin-poor cells and tissues selected from the group consisting of brain tumors, meningiomas, pituitary tumors, craniopharyngioma, lung tumors, renal tumors, breast tumors, colon tumors, skin tumors, squamous cell tumors, laryngeal tumors, and prostate tumors, said method comprising the steps of:

(a) preparing a dosage of cyclophilin ligand for parenteral or enteral administration, said cyclophilin ligand being ~~selected from the group consisting of cyclosporins and functional derivatives, metabolites, variants, and salts thereof selected from the group consisting of~~ cyclosporin A, ~~cyclosporin C, cyclosporin D, cyclosporin G, cyclosporin AM1, cyclosporin AM9, cyclosporin AM1c, cyclosporin AM4N, cyclosporin AM19, cyclosporin AM1c9, cyclosporin AM1A, cyclosporin AM1A4N, cyclosporin AM1Ac, cyclosporin AM1AL, cyclosporin AM11d, cyclosporin AM69, cyclosporin AM4N9, cyclosporin AM14N, cyclosporin AM14N9, cyclosporin 4N69, cyclosporin AM99N, dihydrocyclosporin CsA, dihydrocyclosporin CsC, dihydrocyclosporin CsD, dihydrocyclosporin CsG, cyclosporin M17, cyclosporin AM1c-GLC, cyclosporin sulfate conjugate, cyclosporin BH11a, cyclosporin BH15a, cyclosporin B, cyclosporin G, cyclosporin E, cyclosporin M1 through cyclosporin M26, cyclosporin MUNDF1, cyclosporin MeBMT, cyclosporin GM1, cyclosporin GM9, cyclosporin GM4N, cyclosporin GM1c, cyclosporin GM1c9, cyclosporin GM19, cyclosporin SDZ-209-313, cyclosporin SDZ-205-549, cyclosporin SDZ-033-243, cyclosporin SDZ-IMM-125, and cyclosporin SDZ-PSC-833, which are~~ when able to cross the blood-brain barrier, said dosage being from 0.001 to 50 mg/kg of body weight of said mammal for parenteral administration and from 0.01 to 60 mg/kg of body weight of said mammal for enteral administration; and

(b) administering said dosage to said mammal before administering ionizing radiation treatment to said mammal.

2. (cancelled).

3. (original) The method of claim 1, wherein said ionizing radiation comprises a radiation which is selected from the group consisting of alpha radiation, beta radiation, X radiation, gamma radiation, cosmic radiation, fast neutron radiation, proton radiation, and particle beam radiation.

4. (original) The method of claim 1, wherein said ionizing radiation exposure is therapeutic treatment radiation from medical sources, or non-therapeutic radiation from industrial sources, natural sources, man-made sources, or nuclear sources.

5. (original) The method of claim 1, wherein said cyclophilin ligand is administered by parenteral injection, said injection being into, or adjacent to, the brain, tumor, or spinal cord, or via cerebrospinal fluid spaces, intraventricular fluid spaces, or intrathecal spaces, or via application into the digestive, respiratory, or genito-urinary systems, or skin, or by a combination of these routes, so that said cyclophilin ligand comes into contact with neurons.

6. (original) The method of claim 1, wherein said mammal is a cancer patient with a primary brain tumor.

7. (original) The method of claim 1, wherein said mammal is a cancer patient with a metastatic brain tumor.

8. (original) The method of claim 1, wherein said mammal is a patient with an ionizing radiation-treatable lesion.

9. (original) The method of claim 1, wherein said cyclosporin is cyclosporin A or a derivative, metabolite of salt thereof.

10. (original) The method claim 9, wherein said cyclosporin is cyclosporin A.

11. (original) A method for selectively reducing mammal neuron death from ionizing radiation in cyclophilin-rich neurons of central, peripheral, and autonomic nervous systems of a mammal while not reducing damage or death to cyclophilin-poor cells and tissues selected from the group consisting of glia, glia-derived tumor cells, abnormal neuron-derived tumor cells, non-brain tumors, and non-neuron tissue of the body, said method comprising the steps of:

(a) preparing a dosage of cyclosporin A, said dosage being from an effective amount to less than 1 gr/kg of body weight of said mammal; and

(b) administering said dosage to said mammal before, co-incident with, or after ionizing radiation of said mammal, said dose being administered not later than the same day as the radiation exposure.

12. (original) The method of claim 11, wherein said ionizing radiation comprises a radiation which is selected from the group consisting of alpha radiation, beta radiation, X radiation, gamma radiation, cosmic radiation, fast neutron radiation, proton radiation, and particle beam radiation.

13. (original) The method of claim 11, wherein said ionizing radiation exposure is therapeutic treatment radiation from medical sources, or non-therapeutic radiation from industrial sources, natural sources, man-made sources, or nuclear sources.

14. (original) The method of claim 11, wherein said cyclophilin ligand is administered by parenteral injection, said injection being into or adjacent to, the brain, tumor, or spinal cord, or via cerebrospinal fluid spaces, intraventricular fluid spaces, or intrathecal spaces, or via application into the digestive, respiratory, or genito-urinary systems, or skin, or by a combination of these routes, so that said cyclophilin ligand comes into contact with neurons.

15. (original) The method of claim 11, wherein said mammal is a cancer patient with a primary brain tumor.

16. (original) The method of claim 11, wherein said mammal is a cancer patient with a metastatic brain tumor.

17. (original) The method of claim 11, wherein said mammal is a patient with an ionizing radiation-treatable lesion.

18. (new) The method of claim 1, wherein the cyclosporin A is administered to said mammal via lumbar puncture.